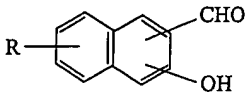
CLAIMS

1. An aromatic compound comprising an aldehyde group, a phenol group and a phosphate group or a mimetic thereof, wherein:

- its aromatic nucleus comprises two aromatic benzene chains,
- it responds to the following general formula:

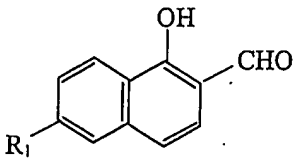


(I)

where:

- The aldehyde group (-CHO) and the phenol group (-OH) are linked to two adjacent carbon atoms from the same aromatic chain, known as the first aromatic chain,
- and linked to a carbon atom in a second aromatic chain, known as the second aromatic chain, with R a phosphate group or a phosphate group mimetic selected from among:
  - a enzymolabile protecting group adapted to allow said aromatic compound to pass through the cell and/or parasite membrane systems passively, and to be able to generate, once inside a cell or parasite, the formation of a phosphate group or a stable phosphate group analogue.
  - a stable phosphate group analogue adapted to preserve the aromatic compound of spontaneous or enzyme dephosphorylation.

2. The aromatic compound of claim 1, wherein it has the general formula:

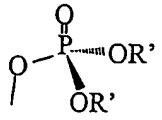


(II)

where R_1 is a phosphate group or a phosphate group mimetic.

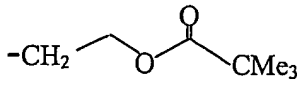
3. The aromatic compound of for any one of claims 1 and 2, wherein the enzymolabile protecting group is a group tending to be deprotected by one or more intracellular esterases.

4. The aromatic compound of claim 3, wherein the enzymolabile protecting group presents the following general formula:

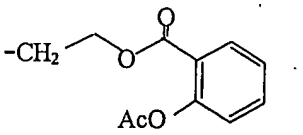


(III)

where R' is selected from among one of the following groups:

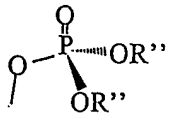


(IV)



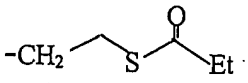
(V)

5. The aromatic compound of claim 3, wherein the enzymolabile protecting group presents the following general formula:

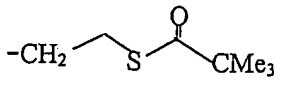


(VI)

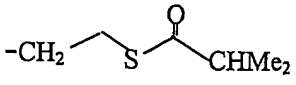
where R" is selected from among one of the following groups:



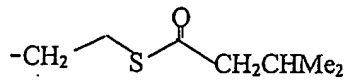
(VII)



(VIII)



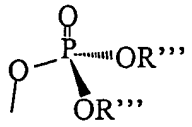
(IX)



(X)

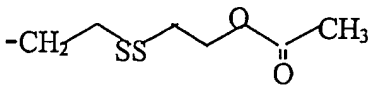
6. The aromatic compound of any one of claims 1 and 2, wherein the enzymolabile protecting group is a group tending to be deprotected by one or more intracellular esterases.

7. The aromatic compound of claim 6, wherein the enzymolabile protecting group presents the following general formula:



(XI)

where R' is selected from among one of the following groups:



(XII)

8. The aromatic compound of any one of claims 1 and 2, wherein the stable phosphate analogue is selected from among one of the following groups:

- methylenephosphonate
- difluoromethylenephosphonate
- monofluoromethylenephosphonate

9. The aromatic compound of any one of claims 1 to 8, wherein a hydrogen atom from at least one carbon atom from at least one of the aromatic chains is substituted by a substituent, said hydrophobic substituent adapted to improve the global hydrophobicity of the aromatic compound.

10. The aromatic compound of claim 9, wherein the hydrophobic substituent(s) is(are) one of the alkyl groups of the principal chain comprising a maximum of three carbon atoms.

11. The aromatic compound of any one of claims 1 to 10, wherein its non-therapeutic uses are as an agent inhibiting class I aldolase activity.

12. The aromatic compound of claim 11, wherein it has an inhibition constant K_i, less than 25 μM, in particular less than 50 nM, typically of the order of 25 nM.

13. The aromatic compound of claim 11, wherein it is able to inhibit at least one aldolase irreversibly or virtually irreversibly.

14. A method of inhibiting extracellular or intracellular aldolases, other than intracellular aldolases of non-isolated living cells from a human or animal body, or a human embryo, wherein said aldolases are contacted with at leas one aromatic compound of any one of claims 1 to 13, at least in an amount sufficient to cause a significant effect.

15. The method of claim 14, applied to cell glycolysis inhibition.

16. The method of any one of claims 14 and 15, applied to stop development of a cancer cell.

17. A medicament comprising an aromatic compound in accordance with any one of claims 1 to 13.

18. Use of a compound according to any one of claims 1 to 13, for manufacturing a medicament for treating cancer.

19. Use according to claim 18, for manufacturing a medicament for treating cancer performed by the GRH approach.

20. A method for synthesizing a compound 1-hydroxy-2-naphthaldehyde phosphorylated on a carbon atom in the second aromatic chain, according to claim 1, wherein a phosphorylation stage of a dihydroxylated compound 2-naphthaldehyde is performed, hydroxylated on carbon atom 1 of the first aromatic chain and one of the carbon atoms in the second aromatic chain, said phosphorylation corresponding to substitution of the hydroxyl group in the second aromatic chain by a phosphate group.

21. A synthesis method according to claim 20, wherein phosphorylation is initiated by the triethyl, phosphite, pyridine and iode technique, in a solution of CH_2Cl_2/THF.

22. A synthesis method according to any one of claims 20 or 21, wherein phosphorylation is performed on 1,6-dihydroxy-2-naphthaldehyde to obtain 5-formyl-6-hydroxy-2-naphthylphosphate.

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